

Applicants: Graham P. Allaway et al.
Serial No.: 09/904,356
Filed: July 12, 2001
Page 4

REMARKS

Claims 7-9 and 13-25 were pending in the subject application. By this Amendment, applicants canceled claims 7-9 and 13-25 without disclaimer or prejudice to applicants' right to pursue the subject matter of these claims in the future and have added new claims 26-35. Support for new claims 26-35 may be found in the specification at, *inter alia*, as follows: Claim 26: page 21, lines 14-16; page 24, lines 10-12; and page 27, lines 24-29; Claim 27: page 27, lines 4-5; Claim 28: page 27, lines 5-6; Claim 29: page 27, line 6; and Claim 30: page 27, lines 6-7; Claim 31: page 28, lines 5-7; page 24, lines 10-12; and page 27, lines 24-29; Claim 32: page 27, lines 4-5; Claim 33: page 27, lines 5-6; Claim 34: page 27, line 6; and Claim 35: page 27, lines 6-7. Accordingly, applicants maintain that new claims 26-35 do not raise any issue of new matter. Applicants respectfully request that the Examiner enter this Amendment. Upon entry of this Amendment, claims 26-35 will be pending and under examination.

Rejection under 35 U.S.C. §112, First Paragraph

In the February 8, 2007 Office Action the Examiner maintained the rejection of claims 7-9 and 13-25 under 35 U.S.C. §112, first paragraph, as allegedly containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. Specifically, the Examiner alleged that the word "agent" in the claims encompasses a large genus of poorly defined chemical compounds which could include, *inter alia*, antibodies, organic compounds, small molecular weight polypeptides, peptidomimetics, and retroinverso peptides. The Examiner further alleged that the claimed genus has no structural boundaries

In response, applicants respectfully traverse the Examiner's ground of rejection. Nevertheless, without conceding the correctness of the Examiner's rejection, applicants have herein cancelled claims 7-25 without disclaimer or prejudice thereby rendering moot the Examiner's

Applicants: Graham P. Allaway et al.
Serial No.: 09/904,356
Filed: July 12, 2001
Page 5

ground of rejection. Applicants will address this ground of rejection as if it were being applied to new claims 26-35.

Applicants' invention provides a method of specifically inhibiting fusion of an HIV-1 envelope glycoprotein⁺ cell with a CD4⁺ cell that fuses with such HIV-1 envelope glycoprotein⁺ cell, which comprises contacting the CD4⁺ cell with an antibody which (1) inhibits HIV-1 envelope glycoprotein mediated membrane fusion of HeLa-env_{JRFL} to a PM1 cell, but (2) does not inhibit HIV-1 mediated membrane fusion between HeLa-env_{LAI} to a HeLa-CD4⁺ cell, so as to thereby inhibiting fusion of an HIV-1 envelope glycoprotein⁺ cell with a CD4⁺ cell.

Applicants' invention further provides a method of inhibiting infection of a CD4⁺ cell by HIV-1 which comprises contacting the CD4⁺ cell with an antibody that (1) inhibits HIV-1 envelope glycoprotein mediated membrane fusion of HeLa-env_{JR-FL} to a PM1 cell, but (2) does not inhibit HIV-1 envelope glycoprotein mediated membrane fusion of HeLa-env_{LAI} to a HeLa-CD4⁺ cell, so as to thereby inhibit infection of the CD4⁺ cell by HIV-1.

Applicants maintain that the structural characteristics of an antibody are well known in the art, so that one of skill in the art would easily understand the structure of the antibody recited in the methods now being claimed. In addition, applicants maintain that the binding specificity of the antibody and its preferential inhibitory activities, i.e., that the antibody inhibits HIV-1 envelope glycoprotein mediated membrane fusion of HeLa-env_{JRFL} to a PM1 cell, but does not inhibit HIV-1 mediated membrane fusion between HeLa-env_{LAI} to a HeLa-CD4⁺ cell, as recited in new claims 26 and 31, functionally identify the antibody.

Moreover, the specification discloses monoclonal antibodies PA-3, PA-5, PA-6 and PA-7, which inhibit fusion of HeLa-env_{JR-FL} to a PM1 cell (see page 60, lines 13-16 and Table 3), but which do not inhibit fusion of HeLa-env_{LAI} to a HeLa-CD4⁺ cell (see Table 3). In addition, as described on page 61, Table 3 in the specification, PA-3, PA-5 and PA-7 did not inhibit fusion of HeLa-env_{LAI} to HeLa-CD4⁺ cells (i.e. value is 0%), and PA6 inhibited fusion by the de minimis value of 7.7%. By comparison, PA-3, PA-5 and PA-6 inhibited fusion of HeLa-env_{JR-FL} to

Applicants: Graham P. Allaway et al.
Serial No.: 09/904,356
Filed: July 12, 2001
Page 6

HeLa-CD4+ cells by 85%, 96% and 92%, respectively, and PA7 inhibited such fusion by 67%. The HeLa-env_{JR-FL} and HeLa-env_{LAI} cell lines used in the RET assay disclosed in the application are indicators of the fusion activity of macrophage-tropic and T cell-tropic HIV-1 strains, respectively (see the specification at, *inter alia*, page 52, lines 11-33 and pages 57-59).

In addition, applicants note that the specification discloses and exemplifies a reproducible RET assay for identifying antibodies which inhibits HIV-1 mediated membrane fusion of HeLa-env_{JR-FL} to a PM1 cell, but do not inhibit HIV-1 mediated membrane fusion between HeLa-env_{LAI} to a HeLa-CD4+ cell, as recited in new claims 26 and 31. Accordingly, antibodies of the invention are disclosed and can be readily identified using the RET screening assay.

In view of the above remarks, applicants maintain that the subject specification provides written description sufficient to comply with the requirements of 35 U.S.C. §112, first paragraph. Accordingly, applicants maintain that the Examiner's ground of rejection set forth in the February 8, 2007 Office Action is not applicable to new claims 26-35, and request allowance of new claims 26-35.

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

In accordance with their duty of disclosure under 37 C.F.R. §1.56, applicants direct the Examiner's attention to the following documents listed below which are also listed on Substitute Form PTO-1449 (**Exhibit A**).

This Supplemental Information Disclosure Statement is being submitted pursuant to 37 C.F.R. §1.97(c) before the mailing of a Final Office Action, Notice of Allowance or an action that otherwise closes prosecution in the application. Pursuant to 37 C.F.R. § 1.97 (c)(2), the fee set forth in § 1.17(p) must accompany this Supplemental Information Disclosure Statement. The fee set forth in § 1.17(p) is ONE HUNDRED AND EIGHTY DOLLARS (\$180.00) and a check including this amount is enclosed. Thus, this Supplemental Information Disclosure Statement should be entered and considered.

Applicants: Graham P. Allaway et al.
Serial No.: 09/904,356
Filed: July 12, 2001
Page 7

In accordance with 37 C.F.R. §1.92(a)(2)(ii), copies of the U.S. Patents and U.S. Patent Application Publications listed herein are not provided. Accordingly, copies of documents listed below as items 1-38 are not submitted herewith. Copies of documents listed below as items 39-494 are attached hereto as **Exhibits 1-456**.

1. U.S. Patent No. 6,258,527 issued July 10, 2001 to Littman;
2. U.S. Patent No. 6,258,782 issued July 10, 2001 to Barney et al.;
3. U.S. Patent No. 6,265,184 issued July 24, 2001 to Gray;
4. U.S. Patent No. 6,268,477 issued June 31, 2002 to Gray;
5. U.S. Patent No. 6,448,375 issued September 10, 2002 to Samson;
6. U.S. Patent No. 6,692,745 issued February 17, 2004 to Olson;
7. U.S. Patent No. 6,692,938 issued February 17, 2004 to Samson;
8. U.S. Patent No. 6,797,811 issued September 28, 2004 to Gray;
9. U.S. Patent No. 6,972,126 issued December 6, 2005 to Allaway;
10. U.S. Patent No. 6,800,447 issued October 5, 2004 to Samson;
11. U.S. Patent No. 5,939,320 issued August 17, 1999 to Littman;
12. U.S. Patent No. 5,817,767 issued October 6, 1998 to Allaway;
13. U.S. Patent No. 6,100,087 issued August 8, 2000 to J. Rossi et al.;
14. U.S. Patent No. 7,175,988 issued February 13, 2003 to V. Roschke et al.;
15. U.S. Patent No. 6,528,625 issued March 4, 2003 to L. Wu;

Applicants: Graham P. Allaway et al.
Serial No.: 09/904,356
Filed: July 12, 2001
Page 8

16. U.S. Patent No. 6,548,636 issued April 15, 2003 to T. Dragic;
17. U.S. Patent No. 7,118,859 issued October 10, 2006 to V.M. Litwin et al.;
18. U.S. Patent No. 7,138,119 issued November 21, 2006 to W.C. Olson et al.;
19. U.S. Patent No. 6,930,174 issued August 16, 2005 to M. Samson et al.;
20. U.S. Patent No. 7,151,087 B2 issued December 19, 2006 to C. Combadiere et al.;
21. U.S. Patent No. 7,129,055 issued October 31, 2006 to D. Littman et al.;
22. U.S. Patent No. 7,060,273 issued June 13, 2006 to W.C. Olson et al.;
23. U. S. Patent No. 7,122,185 issued October 17, 2006 to W.C. Olson et al.;
24. U.S. Patent No. 6,908,734 issued June 21, 2005 to T. Dragic et al.;
25. U.S. Patent No. 7,160,546 issued January 9, 2007 to Y. Li et al.;
26. G.P. Allaway et al., U.S. Patent Application Publication No. 2007-0048820 A1 published March 1, 2007;
27. W.C. Olson et al., U.S. Patent Application Publication No. 2007-0031408 A1 published February 8, 2007;
28. W.C. Olson et al., U.S. Patent Application Publication No. 2007-0020280 A1 published January 25, 2007;

Applicants: Graham P. Allaway et al.
Serial No.: 09/904,356
Filed: July 12, 2001
Page 9

29. V.M. Litwin et al., U.S. Patent Application Publication No. 2007-0025983 A1 published February 1, 2007;
30. T. Dragic et al., U.S. Patent Application Publication No. 2002-0068813 A1 published June 6, 2002;
31. M. Samson et al., U.S. Patent Application Publication No. 2004-0161739 published August 19, 2004;
32. M. Samson et al., U.S. Patent Application Publication No. 2004-0110127 published June 10, 2004;
33. V. Roschke et al., U.S. Patent Application Publication No. 2005-0154193 published July 14, 2005;
34. C. Rosen et al., U.S. Patent Application Publication No. 2003-0166024 published September 4, 2003;
35. C. Rosen et al., U.S. Patent Application Publication No. 2002-0048786 published April 25, 2002;
36. C. Rosen et al., U.S. Patent Application Publication No. 2002-0061834 published May 23, 2002;
37. L. Wu et al., U.S. Patent Application Publication No. 2003-0166870 published December 23, 2004;
38. C. Combadiere et al., U.S. Patent Application Publication No. 2003-0195348 published October 16, 2003;
39. L. Lopalco et al., U.S. Patent Application Publication No. 2003-0003440 published January 2, 2003;
40. T. Dragic et al., U.S. Patent Application Publication No. 2003-0092632 published May 15, 2003;
41. W.C. Olson et al., U.S. Patent Application Publication No. 2007-0026441 A1 published February 1, 2007;

Applicants: Graham P. Allaway et al.
Serial No.: 09/904,356
Filed: July 12, 2001
Page 10

42. W.C. Olson et al., U.S. Patent Application Publication No. 2004-0062767 published April 1, 2004;
43. T. Dragic et al., U.S. Patent Application Publication No. 2003-0139571 A1 published July 24, 2003;
44. February 15, 1996 Advisory Action in connection with U.S. Application Serial No. 08/169,311 (**Exhibit 1**);
45. September 13, 1995 Final Office Action in connection with U.S. Application Serial No. 08/169,311 (**Exhibit 2**);
46. November 23, 1994 Office Action in connection with U.S. Application Serial No. 08/169,311 (**Exhibit 3**);
47. August 18, 1994 Office Action in connection with U.S. Application Serial No. 08/169,311 (**Exhibit 4**);
48. July 16, 1998 Notice of Acceptance in connection with Australian Application No. 14387/95 (**Exhibit 5**);
49. November 27, 1996 Examiner's First Report in connection with Australian Application No. 14387/95 (**Exhibit 6**);
50. July 5, 2000 Notice of Acceptance in connection with Australian Application No. 62690/96 (**Exhibit 7**);
51. November 10, 1998 Examiner's First Report in connection with Australian Application No. 62690/96 (**Exhibit 8**);
52. September 14, 2006 Official Action in connection with Canadian Application No. 2,224,003 (**Exhibit 9**);
53. September 11, 2006 Communication Pursuant to Article 96(2) EPC in connection with European Application No. 96 921 473.3 (**Exhibit 10**);

Applicants: Graham P. Allaway et al.
Serial No.: 09/904,356
Filed: July 12, 2001
Page 11

54. March 8, 2006 Summons to Oral Proceedings Pursuant to Rule 71(1) EPC in connection with European Application No. 96 921 473.3 (**Exhibit 11**);
55. February 24, 2005 Provision of a Copy of the Minutes in accordance with Rule 76(4) EPC in connection with European Application No. 96 921 473.3 (**Exhibit 12**);
56. February 24, 2005 Decision to Refuse a European Patent Application in connection with European Application No. 96 921 473.3 (**Exhibit 13**);
57. August 30, 2004 Summons to Oral Proceedings Pursuant to Rule 71(1) EPC in connection with European Application No. 96 921 473.3 (**Exhibit 14**);
58. December 19, 2002 Communication Pursuant to Article 96(2) EPC in connection with European Application No. 96 921 473.3 (**Exhibit 15**);
59. July 6, 2001 Communication Pursuant to Article 96(2) EPC in connection with European Application No. 96 921 473.3 (**Exhibit 16**);
60. December 20, 1999 Notice of Allowance and Allowability in connection with U.S. Application Serial No. 08/973,601 (**Exhibit 17**);
61. August 3, 1999 Advisory Action in connection with U.S. Application Serial No. 08/973,601 (**Exhibit 18**);
62. March 25, 1999 Office Action in connection with U.S. Application Serial No. 08/973,601 (**Exhibit 19**);
63. June 24, 1998 Office Action in connection with U.S. Application Serial No. 08/973,601 (**Exhibit 20**);

Applicants: Graham P. Allaway et al.
Serial No.: 09/904,356
Filed: July 12, 2001
Page 12

64. January 11, 2005 Notice of Allowance and Allowability in connection with U.S. Application Serial No. 09/412,284 (**Exhibit 21**);
65. December 2, 2003 Final Office Action in connection with U.S. Application Serial No. 09/412,284 (**Exhibit 22**);
66. February 3, 2003 Office Action in connection with U.S. Application Serial No. 09/412,284 (**Exhibit 23**);
67. April 8, 2002 Advisory Action in connection with U.S. Application Serial No. 09/412,284 (**Exhibit 24**);
68. September 11, 2001 Final Office Action in connection with U.S. Application Serial No. 09/412,284 (**Exhibit 25**);
69. December 19, 2000 Office Action in connection with U.S. Application Serial No. 09/412,284 (**Exhibit 26**);
70. April 18, 2007 Office Action in connection with U.S. Application Serial No. 11/258,963 (**Exhibit 27**);
71. December 26, 2006 Office Action in connection with U.S. Application Serial No. 11/258,963 (**Exhibit 28**);
72. February 8, 2007 Office Action in connection with U.S. Application Serial No. 09/904,356 (**Exhibit 29**);
73. May 2, 2006 Final Office Action in connection with U.S. Application Serial No. 09/904,356 (**Exhibit 30**);
74. October 12, 2005 Office Action in connection with U.S. Application Serial No. 09/904,356 (**Exhibit 31**);
75. July 29, 2005 Advisory Action in connection with U.S. Application Serial No. 09/904,356 (**Exhibit 32**);

Applicants: Graham P. Allaway et al.
Serial No.: 09/904,356
Filed: July 12, 2001
Page 13

76. November 17, 2004 Final Office Action in connection with U.S. Application Serial No. 09/904,356 (**Exhibit 33**);
77. July 1, 2003 Office Action in connection with U.S. Application Serial No. 09/904,356 (**Exhibit 34**);
78. September 29, 2003 Advisory Action in connection with U.S. Application Serial No. 09/118,415 (**Exhibit 35**);
79. January 28, 2003 Final Office Action in connection with U.S. Application Serial No. 09/118,415 (**Exhibit 36**);
80. April 9, 2002 Office Action in connection with U.S. Application Serial No. 09/118,415 (**Exhibit 37**);
81. August 14, 2001 Advisory Action in connection with U.S. Application Serial No. 09/118,415 (**Exhibit 38**);
82. November 24, 2000 Final Office Action in connection with U.S. Application Serial No. 09/118,415 (**Exhibit 39**);
83. February 11, 2000 Office Action in connection with U.S. Application Serial No. 09/118,415 (**Exhibit 40**);
84. August 3, 2006 Notice of Allowance and Allowability in connection with U.S. Application Serial No. 09/891,062 (**Exhibit 41**);
85. July 17, 2006 Notice of Allowability in connection with U.S. Application Serial No. 09/891,062 (**Exhibit 42**);
86. May 18, 2006 Notice of Allowance and Allowability in connection with U.S. Application Serial No. 09/891,062 (**Exhibit 43**);
87. August 8, 2005 Office Action in connection with U.S. Application Serial No. 09/891,062 (**Exhibit 44**);
88. March 21, 2005 Office Action in connection with U.S. Application Serial No. 09/891,062 (**Exhibit 45**);

Applicants: Graham P. Allaway et al.
Serial No.: 09/904,356
Filed: July 12, 2001
Page 14

89. May 28, 2004 Advisory Action in connection with U.S. Application Serial No. 09/891,062 (**Exhibit 46**);
90. September 24, 2003 Final Office Action in connection with U.S. Application Serial No. 09/891,062 (**Exhibit 47**);
91. December 18, 2002 Office Action in connection with U.S. Application Serial No. 09/891,062 (**Exhibit 48**);
92. April 30, 2007 Notice of Allowance and Allowability in connection with U.S. Application Serial No. 11/544,346 (**Exhibit 49**);
93. March 3, 1997 Office Action in connection with U.S. Application Serial No. 08/627,684 (**Exhibit 50**);
94. June 23, 1997 Office Action in connection with U.S. Application Serial No. 08/663,616 (**Exhibit 51**);
95. March 13, 1997 Office Action in connection with U.S. Application Serial No. 08/673,682 (**Exhibit 52**);
96. November 28, 2000 Notice of Acceptance in connection with Australian Application No. 26074/97 (**Exhibit 53**);
97. July 13, 1999 Examiner's First Report in connection with Australian Application No. 26074/97 (**Exhibit 54**);
98. October 23, 2006 Official Action in connection with Canadian Application No. 2,250,829 (**Exhibit 55**);
99. May 27, 2005 Official Action in connection with Canadian Application No. 2,250,829 (**Exhibit 56**);
100. May 4, 2007 Summons to Attend Oral Proceedings Pursuant to Rule 71(1) EPC in connection with European Application No. 97917856.3 (**Exhibit 57**);

Applicants: Graham P. Allaway et al.
Serial No.: 09/904,356
Filed: July 12, 2001
Page 15

101. January 27, 2006 Communication Pursuant to Article 96(2) EPC in connection with European Application No. 97917856.3 (**Exhibit 58**);
102. October 21, 2005 Communication Pursuant to Article 115(2) EPC in connection with European Application No. 97917856.3 (**Exhibit 59**);
103. April 1, 2005 Communication Pursuant to Article 96(2) EPC in connection with European Application No. 97917856.3 (**Exhibit 60**);
104. August 5, 2004 Communication Pursuant to Article 96(2) EPC in connection with European Application No. 97917856.3 (**Exhibit 61**);
105. January 27, 2004 Communication Pursuant to Article 96(2) EPC in connection with European Application No. 97917856.3 (**Exhibit 62**);
106. May 9, 2003 Communication Pursuant to Article 96(2) EPC in connection with European Application No. 97917856.3 (**Exhibit 63**);
107. March 6, 2002 Search Report Communication in connection with European Application No. 97917856.3 (**Exhibit 64**);
108. February 27, 2007 Notification of Reasons for Rejection in connection with Japanese Application No. 535610/97 (English translation) (**Exhibit 65**);
109. May 19, 2006 Examiner's First Report in connection with Australian Application No. 2004233505 (**Exhibit 66**);
110. July 26, 2004 Notice of Acceptance in connection with Australian Application No. 35106/01 (**Exhibit 67**);
111. July 5, 2004 Examiner's Second Report in connection with Australian Application No. 35106/01 (**Exhibit 68**);
112. November 1, 2002 Examiner's First Report in connection with Australian Application No. 35106/01 (**Exhibit 69**);

Applicants: Graham P. Allaway et al.
Serial No.: 09/904,356
Filed: July 12, 2001
Page 16

113. December 4, 2001 Notice of Allowance and Allowability in connection with U.S. Application Serial No. 08/831,823 (**Exhibit 70**);
114. January 16, 2001 Notice of Allowance and Allowability in connection with U.S. Application Serial No. 08/831,823 (**Exhibit 71**);
115. September 26, 2000 Advisory Action in connection with U.S. Application Serial No. 08/831,823 (**Exhibit 72**);
116. April 11, 2000 Final Office Action in connection with U.S. Application Serial No. 08/831,823 (**Exhibit 73**);
117. July 21, 1999 Final Office Action in connection with U.S. Application Serial No. 08/831,823 (**Exhibit 74**);
118. December 21, 1998 Office Action in connection with U.S. Application Serial No. 08/831,823 (**Exhibit 75**);
119. August 17, 1998 Office Action in connection with U.S. Application Serial No. 08/831,823 (**Exhibit 76**);
120. June 15, 2006 Final Office Action in connection with U.S. Application Serial No. 09/888,938 (**Exhibit 77**);
121. September 7, 2005 Office Action in connection with U.S. Application Serial No. 09/888,938 (**Exhibit 78**);
122. August 4, 2004 Office Action in connection with U.S. Application Serial No. 09/888,938 (**Exhibit 79**);
123. May 5, 2004 Office Action in connection with U.S. Application Serial No. 09/888,938 (**Exhibit 80**);
124. June 22, 1999 Notice of Allowance and Allowability in connection with U.S. Application Serial No. 08/876,078 (**Exhibit 81**);

Applicants: Graham P. Allaway et al.
Serial No.: 09/904,356
Filed: July 12, 2001
Page 17

125. December 21, 1998 Final Office Action in connection with U.S. Application Serial No. 08/876,078 (**Exhibit 82**);
126. March 23, 1998 Office Action in connection with U.S. Application Serial No. 08/876,078 (**Exhibit 83**);
127. June 16, 2006 Communication Pursuant to Article 96(2) EPC in connection with European Application No. 98 931 261.6 (**Exhibit 84**);
128. June 17, 2005 Communication Pursuant to Article 96(2) EPC in connection with European Application No. 98 931 261.6 (**Exhibit 85**);
129. October 17, 2006 Final Office Action in connection with U.S. Application Serial No. 09/460,216 (**Exhibit 86**);
130. February 3, 2006 Office Action in connection with U.S. Application Serial No. 09/460,216 (**Exhibit 87**);
131. July 29, 2005 Advisory Action in connection with U.S. Application Serial No. 09/460,216 (**Exhibit 88**);
132. February 09, 2005 Final Office Action in connection with U.S. Application Serial No. 09/460,216 (**Exhibit 89**);
133. September 26, 2003 Advisory Action in connection with U.S. Application Serial No. 09/460,216 (**Exhibit 90**);
134. February 27, 2003 Final Office Action in connection with U.S. Application Serial No. 09/460,216 (**Exhibit 91**);
135. October 2, 2001 Office Action in connection with U.S. Application Serial No. 09/460,216 (**Exhibit 92**);
136. September 9, 2002 Notice of Acceptance in connection with Australian Application No. 81426/98 (**Exhibit 93**);

Applicants: Graham P. Allaway et al.
Serial No.: 09/904,356
Filed: July 12, 2001
Page 18

137. February 27, 2002 Examiner's Second Report in connection with Australian Application No. 81426/98 (**Exhibit 94**);
138. February 21, 2001 Examiner's First Report in connection with Australian Application No. 81426/98 (**Exhibit 95**);
139. February 4, 1997 Office Action in connection with U.S. Application Serial No. 08/665,090 (**Exhibit 96**);
140. August 29, 2000 Notice of Allowance and Allowability in connection with 08/874,618 (**Exhibit 97**);
141. November 19, 1999 Office Action in connection with U.S. Application Serial No. 08/874,618 (**Exhibit 98**);
142. May 24, 1999 Final Office Action in connection with U.S. Application Serial No. 08/874,618 (**Exhibit 99**);
143. September 2, 1998 Office Action in connection with U.S. Application Serial No. 08/874,618 (**Exhibit 100**);
144. December 13, 2005 Final Office Action in connection with U.S. Application Serial No. 09/724,105 (**Exhibit 101**);
145. March 23, 2005 Office Action in connection with U.S. Application Serial No. 09/724,105 (**Exhibit 102**);
146. September 23, 2004 Office Action in connection with U.S. Application Serial No. 09/724,105 (**Exhibit 103**);
147. May 19, 2004 Office Action in connection with U.S. Application Serial No. 09/724,105 (**Exhibit 104**);
148. December 19, 2006 Office Action in connection with U.S. Application Serial No. 11/400,497 (**Exhibit 105**);
149. August 8, 2006 Office Action in connection with U.S. Application Serial No. 11/400,497 (**Exhibit 106**);

Applicants: Graham P. Allaway et al.
Serial No.: 09/904,356
Filed: July 12, 2001
Page 19

150. May 29, 2001 Notice of Acceptance in connection with Australian Application No. 34026/97 (**Exhibit 107**);
151. September 28, 1999 Examiner's First Report in connection with Australian Application No. 34026/97 (**Exhibit 108**);
152. November 10, 2006 Official Action in connection with Canadian Application No. 2,257,991 (**Exhibit 109**);
153. May 23, 2005 Communications Pursuant to Article 96(2) EPC in connection with European Application No. 97 930 120.7 (**Exhibit 110**);
154. November 17, 2004 Communication of partial European search report under Rule 45 EPC in connection with European Application No. 97 930 120.7 (**Exhibit 111**);
155. September 9, 2004 Communication of partial European search report under Rule 46(1) EPC in connection with European Application No. 97 930 120.7 (**Exhibit 112**);
156. October 17, 2006 Notification of Reasons for Rejection in connection with Japanese Application No. 501895/98 (English translation) (**Exhibit 113**);
157. April 5, 2004 Notice of Acceptance in connection with Australian Application No. 21996/00 (**Exhibit 114**);
158. February 5, 2003 Examiner's First Report in connection with Australian Application No. 21996/00 (**Exhibit 115**);
159. March 29, 2006 Examiner's First Report in connection with Australian Application No. 20004205164 (**Exhibit 116**);
160. March 29, 2006 Examiner's First Report in connection with Australian Application No. 20004205165 (**Exhibit 117**);

Applicants: Graham P. Allaway et al.
Serial No.: 09/904,356
Filed: July 12, 2001
Page 20

161. March 1, 2006 Communication under Rule 51(4) EPC in connection with European Application No. 99 966 466.7 (**Exhibit 118**);
162. January 10, 2005 Communication Pursuant to Article 96(2) EPC in connection with European Application No. 99 966 466.7 (**Exhibit 119**);
163. October 14, 2004 Communication Pursuant to Article 96(1) and Rule 51(1) EPC in connection with European Application No. 99 966 466.7 (**Exhibit 120**);
164. January 18, 2007 Office communication in connection with Mexican Application No. 1006097 (**Exhibit 121**);
165. October 13, 2005 Office communication in connection with Mexican Application No. 1006097 (**Exhibit 122**);
166. February 6, 2007 Notice of Allowability in connection with U.S. Application Serial No. 09/464,902 (**Exhibit 123**);
167. January 8, 2007 Notice of Allowance and Allowability in connection with U.S. Application Serial No. 09/464,902 (**Exhibit 124**);
168. April 19, 2006 Office Action in connection with U.S. Application Serial No. 09/464,902 (**Exhibit 125**);
169. October 21, 2005 Office Action in connection with U.S. Application Serial No. 09/464,902 (**Exhibit 126**);
170. June 15, 2005 Advisory Action in connection with U.S. Application Serial No. 09/464,902 (**Exhibit 127**);
171. January 13, 2005 Final Office Action in connection with U.S. Application Serial No. 09/464,902 (**Exhibit 128**);
172. April 2, 2004 Office Action in connection with U.S. Application Serial No. 09/464,902 (**Exhibit 129**);

Applicants: Graham P. Allaway et al.
Serial No.: 09/904,356
Filed: July 12, 2001
Page 21

173. October 21, 2003 Office Action in connection with U.S. Application Serial No. 09/464,902 (**Exhibit 130**);
174. September 25, 2001 Office Action in connection with U.S. Application Serial No. 09/464,902 (**Exhibit 131**);
175. August 7, 2006 Office Action in connection with U.S. Application Serial No. 09/594,983 (**Exhibit 132**);
176. March 24, 2006 Notice of Allowance and Allowability in connection with U.S. Application Serial No. 09/594,983 (**Exhibit 133**);
177. July 11, 2005 Final Office Action in connection with U.S. Application Serial No. 09/594,983 (**Exhibit 134**);
178. August 25, 2004 Office Action in connection with U.S. Application Serial No. 09/594,983 (**Exhibit 135**);
179. September 23, 2003 Notice of Allowability in connection with U.S. Application Serial No. 09/594,983 (**Exhibit 136**);
180. December 3, 2002 Final Office Action in connection with U.S. Application Serial No. 09/594,983 (**Exhibit 137**);
181. March 13, 2002 Office Action in connection with U.S. Application Serial No. 09/594,983 (**Exhibit 138**);
182. September 28, 2001 Office Action in connection with U.S. Application Serial No. 09/594,983 (**Exhibit 139**);
183. December 19, 2006 Notice of Allowance and Allowability in connection with U.S. Application Serial No. 10/763,545 (**Exhibit 140**);
184. July 26, 2006 Office Action in connection with U.S. Application Serial No. 10/763,545 (**Exhibit 141**);

Applicants: Graham P. Allaway et al.
Serial No.: 09/904,356
Filed: July 12, 2001
Page 22

185. June 13, 2006 Office Action in connection with U.S. Application Serial No. 10/763,545 (**Exhibit 142**);
186. February 16, 2006 Office Action in connection with U.S. Application Serial No. 10/763,545 (**Exhibit 143**);
187. May 16, 2006 Notice of Allowance and Allowability in connection with U.S. Application Serial No. 10/371,483 (**Exhibit 144**);
188. October 24, 2006 Office Action in connection with U.S. Application Serial No. 10/371,483 (**Exhibit 145**);
189. January 29, 2007 Examiner's First Report in connection Australian Application No. 2003217674 (**Exhibit 146**);
190. February 22, 2007 Communication Pursuant to Article 96(2) EPC in connection with European Application No. 03 713 632.2 (**Exhibit 147**);
191. April 21, 2006 Supplementary European search report under Article 157(2)(a) in connection with European Application No. 03 713 632.2 (**Exhibit 148**);
192. October 12, 2004 Communication Pursuant to Rules 109 and 110 EPC in connection with European Application No. 03 713 632.2 (**Exhibit 149**);
193. March 14, 2006 Examination Report in connection with New Zealand Application No. 534947 (**Exhibit 150**);
194. February 21, 2003 Official Action in connection with Russian Federation Application No. 2004128252/13(030609) (English Translation) (**Exhibit 151**);
195. September 29, 2006 Grant of Patent in connection with Singaporean Application No. 200404610-8 (**Exhibit 152**);

Applicants: Graham P. Allaway et al.
Serial No.: 09/904,356
Filed: July 12, 2001
Page 23

196. August 7, 2002 Office Action in connection with U.S. Application Serial No. 09/663,219 (**Exhibit 153**);
197. January 5, 2006 Notice of Allowance and Allowability in connection with U.S. Application Serial No. 09/912,824 (**Exhibit 154**);
198. January 26, 2005 Final Office Action in connection with U.S. Application Serial No. 09/912,824 (**Exhibit 155**);
199. April 20, 2004 Office Action in connection with U.S. Application Serial No. 09/912,824 (**Exhibit 156**);
200. July 2, 2003 Office Action in connection with U.S. Application Serial No. 09/912,824 (**Exhibit 157**);
201. July 3, 2006 Notice of Acceptance in connection with Australian Application No. 2001290925 (**Exhibit 158**);
202. June 28, 2005 Examiner's First Report in connection with Australian Application No. 2001290925 (**Exhibit 159**);
203. May 24, 2006 Supplementary European search report under Article 157(2)(a) EPC in connection with European Application No. 01970984.9 (**Exhibit 160**);
204. February 28, 2005 Formalities Examination in connection with European Application No. 01970984.9 (**Exhibit 161**);
205. May 2, 2003 Communication Pursuant to Rules 109 and 110 EPC in connection with European Application No. 01970984.9 (**Exhibit 162**);
206. October 25, 2005 Notice of Allowance and Allowability in connection with U.S. Application Serial No. 09/828,615 (**Exhibit 163**);

Applicants: Graham P. Allaway et al.
Serial No.: 09/904,356
Filed: July 12, 2001
Page 24

207. September 13, 2005 Office Action in connection with U.S. Application Serial No. 09/828,615 (**Exhibit 164**);
208. March 2, 2005 Office Action in connection with U.S. Application Serial No. 09/828,615 (**Exhibit 165**);
209. September 17, 2004 Final Office Action in connection with U.S. Application Serial No. 09/828,615 (**Exhibit 166**);
210. February 23, 2004 Office Action in connection with U.S. Application Serial No. 09/828,615 (**Exhibit 167**);
211. September 9, 2003 Advisory Action in connection with U.S. Application Serial No. 09/828,615 (**Exhibit 168**);
212. February 21, 2003 Final Office Action in connection with U.S. Application Serial No. 09/828,615 (**Exhibit 169**);
213. June 25, 2002 Office Action in connection with U.S. Application Serial No. 09/828,615 (**Exhibit 170**);
214. June 9, 2005 Notice of Allowance and Allowability in connection with U.S. Application Serial No. 10/116,797 (**Exhibit 171**);
215. April 25, 2005 Final Office Action in connection with U.S. Application Serial No. 10/116,797 (**Exhibit 172**);
216. October 6, 2004 Office Action in connection with U.S. Application Serial No. 10/116,797 (**Exhibit 173**);
217. February 9, 2004 Office Action in connection with U.S. Application Serial No. 10/116,797 (**Exhibit 174**);
218. September 7, 2005 Office Action in connection with U.S. Application Serial No. 09/888,938 (**Exhibit 175**);
219. Genbank Sequence Report, Accession Entry X91492 for H. sapiens Chem13, submitted September 14, 1995 (**Exhibit 176**);

Applicants: Graham P. Allaway et al.
Serial No.: 09/904,356
Filed: July 12, 2001
Page 25

220. Janeway and Travers (1994). Immunobiology, Current Biology Ltd., San Francisco. Pp. 10:27-10:42 (**Exhibit 177**);
221. Stryer (1988). Biochemistry, 3rd edition. Pp. 984-988 (**Exhibit 178**);
222. December 17, 2003 Third Party Observations in connection with European Application No. 97904948.3 (**Exhibit 179**);
223. February 27, 2004 Third Party Observations in connection with European Application No. 97904948.3 (**Exhibit 180**);
224. Abaza, M.S.I. and Astassi, M.Z. (1992). Effects Of Amino Acid Substitutions Outside An Antigenic Site On Protein Binding To Monoclonal Antibodies Of Predetermined Specificity Obtained By Peptide Immunization: Demonstration With Region 94-100 (Antigenic Site 3) Of Myoglobin. J. Prot. Chem., 11(5):433-443 (**Exhibit 181**);
225. Alkhatib, et al. (1996). Abstract At 3rd Conference On Retroviruses (**Exhibit 182**);
226. Alkhatib, G., et al. (1996). CC CKR5: A RANTES, MIP-1a, MIP-1b Receptor As A Fusion Cofactor For Macrophage-Tropic HIV-1. Science, 272:1955-1958 (**Exhibit 183**);
227. Alkhatib, G., et al. (1997). HIV Co-Receptor Activity Of CCR5 And Its Inhibition By Chemokines: Independence From G Protein Signaling And Importance Of Co-Receptor Down Modulation. Virology, 234:340-348 (**Exhibit 184**);
228. Allaway, G.P., et al. (1993). Synergistic Inhibition Of HIV-1 Envelope-Mediated Cell Fusion By CD4-Based Molecules In Combination With Antibodies To gp120 or gp41. AIDS Res. Hum. Retroviruses, 9:581-587 (**Exhibit 185**);
229. Allaway, G.P., (1995). Expression And Characterization Of CD4-IgG2, A Novel Heterotetramer That Neutralizes Primary HIV Type 1

Applicants: Graham P. Allaway et al.
Serial No.: 09/904,356
Filed: July 12, 2001
Page 26

- Isolates. AIDS Res. Hum. Retrovirus, 11:533-539 (**Exhibit 186**);
230. Amara, A., et al. (1997). HIV Coreceptor Downregulation As Antiviral Principle: SDF-La-Dependent Internalization Of The Chemokine Receptor CXCR4 Contributes To Inhibition Of HIV Replication. J. Exp. Med., 186:139-146 (**Exhibit 187**);
231. Arenzana-Selsdedos, F., et al. (1996). HIV Blocked By Chemokine Antagonist. Nature, 383:400 (**Exhibit 188**);
232. Arthos, J., et al. (1989). Identification Of The Residues In Human CD4 Critical For The Binding Of HIV. Cell, 57:469-481 (**Exhibit 189**);
233. Ashorn, P.A., et al. (1990). Human Immunodeficiency Virus Envelope Glycoprotein/CD4 Mediated Fusion Of Nonprimate Cells With Human Cells. J. Virol., 64:2149-2156 (**Exhibit 190**);
234. Attanasio, et al. (1991). Anti-Idiotypic Antibody Response To Monoclonal Anti-CD4 Preparations in Nonhuman Primate Species. J. Immunol., 146:507-514 (**Exhibit 191**);
235. Baba, et al. (1998). Mechanism Of Inhibitory Effect Of Dextran Sulfate And Heparin On Replication Of Human Immunodeficiency Virus In Vitro. Proc. Natl. Acad. Sci., 85:6132-6135 (**Exhibit 192**);
236. Back, D.J. (1999). Pharmacological Issues Relating To Viral Resistance. Infection, 27(Suppl.2):S42-S44 (**Exhibit 193**);
237. Balzarini, et al. (1995). Suppression Of The Breakthrough Of HIV-1 In Cell Culture By Thiocarboxanilide Derivatives When Used Individually Or In Combination With Other HIV-1-Specific Inhibitors. Proc. Natl. Acad. Sci., 92:5470-5474 (**Exhibit 194**);
238. Baulerle and Huttner (1987). Tyrosine Sulfation Is A Trans-Golgi-Specific Protein Modification. Cell. Biol., 105:2655-2663 (**Exhibit 195**);

Applicants: Graham P. Allaway et al.
Serial No.: 09/904,356
Filed: July 12, 2001
Page 27

239. Berger, et al. (1996). Abstract No. 002, 8 at Keystone Symposium (**Exhibit 196**);
240. Berger E.A. (1997). HIV Entry And Tropism: The Chemokine Receptor Connection. AIDS, 11(Suppl.A):S3-S16 (**Exhibit 197**);
241. Berger, et al. (1999). Chemokine Receptors As HIV-1 Coreceptors: Roles In Viral Entry, Tropism And Disease. Ann. Rev. Immunol., 17:657-700 (**Exhibit 198**);
242. Bieniasz, P.D., et al. (1997). HIV-1 Induced Cell Fusion Is Mediated By Multiple Regions Within Both The Viral Envelope And The CCR5 Co-Receptor. EMBO, 16:2599-2609 (**Exhibit 199**);
243. Blanpain, C., et al. (1999). Multiple Charged And Aromatic Residues In CCR5 Amino-Terminal Domain Are Involved In High Affinity Binding Of Both Chemokines And HIV-1 Env Protein. J. Biol. Chem., 274:34719-34727 (**Exhibit 200**);
244. Bleul, C.C., et al. (1991). The Lymphocyte Chemoattractant SDF-1 Is A Ligand For LESTR/Fusion And Blocks HIV-1 Entry. Nature, 382:829-832 (**Exhibit 201**);
245. Brelot, A., et al. (1997). Role Of The First And Third Extracellular Domains Of CXCR4 In Human Immunodeficiency Virus Coreceptor Activity. J. Virol., 71:4744-4751 (**Exhibit 202**);
246. Brenner, T.J., et al. (1996). Relation Between HIV-1 Syncytium Inhibition Antibodies And Clinical Outcome In Children. Lancet, 337:1001-1005 (**Exhibit 203**);
247. Broder, et al. (1993). The Block To HIV-1 Envelope Glycoprotein-Mediated Membrane Fusion In Animal Cells Expressing Human CD4 Can Be Overcome By A Human Cell Component(S). Virol., 193:483-491 (**Exhibit 204**);
248. Broder, et al. (1996). HIV And The 7-Transmembrane Domain Receptors. Pathobiology, 64(4):171-179 (**Exhibit 205**);

Applicants: Graham P. Allaway et al.
Serial No.: 09/904,356
Filed: July 12, 2001
Page 28

249. Burkly, L., et al. (1995). Synergistic Inhibition Of Human Immunodeficiency Virus Type 1 Envelope Glycoprotein-Mediated Cell Fusion And Infection By An Antibody To CD4 Domain 2 In Combination With Anti-Gp-120 Antibodies. J. Virol., 69:4267-4273 (**Exhibit 206**);
250. Burton, D.R., et al. (1994). Efficient Neutralization Of Primary Isolates Of HIV-1 By A Recombinant Human Monoclonal Antibody. Science, 266:1024-1027 (**Exhibit 207**);
251. Busso, et al. (1991). HIV-Induced Syncytium Formation Requires The Formation Of Conjugates Between Virus-Infected And Uninfected T-Cells In Vitro. AIDS, 5:1425-1432 (**Exhibit 208**);
252. Cammack, N. (1999). Human Immunodeficiency Virus Type 1 Entry And Chemokine Receptors: A New Therapeutic Target. Antiviral Chemistry And Chemotherapy, 10:53-62 (**Exhibit 209**);
253. Capon, D.J., et al. (1989). Designing CD4 Immunoadhesions For AIDS Therapy. Nature, 337:525-531 (**Exhibit 210**);
254. Chan, D.C., et al. (1998). Evidence That A Prominent Cavity In The Coiled Coil Of HIV Type 1 Gp41 Is An Attractive Drug Target. Proc. Natl. Acad. Sci., 95:15613-15617 (**Exhibit 211**);
255. Chan, D.C., et al. (1998). HIV Entry And Its Inhibition. Cell, 93:681-684 (**Exhibit 212**);
256. Charo, et al. (1994). Molecular Cloning And Functional Expression Of Two Monocyte Chemoattractant Protein 1 Receptors Reveals Alternative Splicing Of The Carboxyl-Terminal Tails. Proc. Natl. Acad. Sci., 91:2752-2756 (**Exhibit 213**);
257. Chen, et al. (1997). Genetically Divergent Strains Of Simian Immunodeficiency Virus Use CCR5 As A Coreceptor For Entry. J. Of Virol., 71(4):2705-2714 (**Exhibit 214**);
258. Choe, H., et al. (1996). The Beta-Chemokine Receptors CCR3 And

Applicants: Graham P. Allaway et al.
Serial No.: 09/904,356
Filed: July 12, 2001
Page 29

CCR5 Facilitate Infection By Primary HIV-1 Isolates. Cell,
85:1135-1148 (**Exhibit 215**);

259. Clapham, P.R., et al. (1991). Specific Cell Surface Requirements For The Infection Of CD4-Positive Cells By Human Immunodeficiency Virus Types 1 And 2 By Simian Immunodeficiency Virus. Virol., 181:703-715 (**Exhibit 216**);
260. Co, et al. (1991). Humanized Antibodies For Antiviral Therapy. Proc. Natl. Acad. Sci., 88:2869-2873 (**Exhibit 217**);
261. Cocchi, F. (1995). Identification Of RANTES, MIP-1alpha And MIP-1beta As The Major HIV-Suppressive Factors Produced By CD8+ T-Cells. Science, 270:1811-1815 (**Exhibit 218**);
262. Combadiere, et al. (1995). Cloning And Functional Expression Of A Human Eosinophil CC Chemokine Receptor. J. Biol. Chem., 270, 16491-16494 (NOTE - Erratum In: J. Biol. Chem. 1995 Dec 15;270(50):30235) (**Exhibit 219**);
263. Combadiere, et al. (1996). Cloning And Functional Expression Of CC CKR5, A Human Monocyte CC Chemokine Receptor Selective For MIP-1a, MIP-1b And RANTES. J. Leukos. Biol., 60:147-152 (**Exhibit 220**);
264. Connor, R.I., et al., (1997). Change In Co-Receptor Use Correlates With Disease Progression In HIV-1 Infected Individuals. J. Exp. Med., 185:621-628 (**Exhibit 221**);
265. Cormier, E.G., et al. (2000). Specific Interaction Of CCR5 Amino-Terminal Domain Peptides Containing Sulfotyrosines With HIV-1 Envelope Glycoprotein Gp120. Proc. Natl. Acad. Sci., 97:5762-5767 (**Exhibit 222**);
266. Crump, M.P., et al. (1997). Solution Structure And Basis For Functional Activity Of Stromal-Cell Derived Factor-1: Disassociation Of CXCR4 Activation From Binding And Inhibition Of HIV-1. EMBO, 16:6996-7007 (**Exhibit 223**);

Applicants: Graham P. Allaway et al.
Serial No.: 09/904,356
Filed: July 12, 2001
Page 30

267. Cruse, et al. (1995). Illustrated Dictionary Of Immunology, CRC Press, Inc, Boca Raton, FL., 143:QR180.4.C78 (**Exhibit 224**);
268. Cushman, M., et al. (1991). Preparation And Anti-HIV Activities Of Aurintricarboxylic Acid Fractions And Analogues: Direct Correlation Of Antiviral Potency With Molecular Weight. J. Med. Chem., 34:329-337 (**Exhibit 225**);
269. Daar, E.S. (1990). High Concentrations Of Recombinant Soluble CD4 Are Required To Neutralize Primary Human Immunodeficiency Virus Type 1 Isolates. Proc. Natl. Acad. Sci., 87:6574-6578 (**Exhibit 226**);
270. Dalglish, A.G., et al. (1984). The CD4 (T4) Antigen Is An Essential Component Of The Receptor For The AIDS Retrovirus. Nature, 312:763-766 (**Exhibit 227**);
271. Dalglish, A.G. (1995). HIV And CD26. Nature Medicine, 1:881-882 (**Exhibit 228**);
272. De Rossi, A., et al. (1995). Synthetic Peptides From The Principle Neutralizing Domain Of Human Immunodeficiency Virus Type 1 (HIV-1) Enhance HIV-1 Infection Through A CD4-Dependent Mechanism. Virology, 184:187-196 (**Exhibit 229**);
273. Dean, M., et al. (1996). Genetic Restriction Of HIV-1 Infection And Progression To AIDS By A Deletion Allele Of The CKR5 Structural Gene. Science, 273:1856-1862 (**Exhibit 230**);
274. De Clerq, et al. (1992). Potent And Selective Inhibition Of Human Immunodeficiency Virus (HIV)-1 and HIV-2 Replication By A Class Of Bicyclams Interacting With A Virus Uncoating Event. Proc. Natl. Acad. Sci., 89:5286-5290 (**Exhibit 231**);
275. De Clerq, et al. (1994). Highly Potent And Selective Inhibition Of Human Immunodeficiency Virus By The Bicyclam Derivative JM3100. Antimicrobial Agents and Chemotherapy, 38:668-674 (**Exhibit 232**);

Applicants: Graham P. Allaway et al.
Serial No.: 09/904,356
Filed: July 12, 2001
Page 31

276. De Clerq, et al. (1995). Antiviral Therapy For Human Immunodeficiency Virus Infections. J. Clin. Microbiol. Rev., 8(2):200-239 (**Exhibit 233**);
277. Deen, K.C., et al. (1988). A Soluble Form Of CD4(T4) Protein Inhibits AIDS Virus Infection. Nature, 331:82-84 (**Exhibit 234**);
278. Deng, H., et al. (1996). Identification Of A Major Co-Receptor For Primary Isolates Of HIV-1. Nature, 381:661-666 (**Exhibit 235**);
279. Deng, X., et al. (1999). A Synthetic Peptide Derived From Human Immunodeficiency Virus Type 1 Gp120 Down-Regulates The Expression And Function Of Chemokine Receptors CCR5 and CXCR4 In Monocytes By Activating The 7-Transmembrane G-Protein-Coupled Receptor FPRL1/LXA4R. Blood, 94(4):1165-1173 (**Exhibit 236**);
280. Dettin, et al. (2003). CCR5 N-Terminus Peptides Enhance X4 HIV-1 Infection By CXCR4 Up-Regulation. Biochem. Biophys. Res. Commun., 307(3):640-646 (**Exhibit 237**);
281. Dikic (1996). Regulation of HIV-1 Infection by Chemokine Receptors. Acta Med. Croatica, 50:163-168 (**Exhibit 238**);
282. Ditzel, et al. (1998). The CCR5 Receptor Acts As An Alloantigen In CCR5 Δ 32 Homozygous Individuals: Identification Of Chemokine And HIV-1 Blocking Human Antibodies. Proc. Natl. Acad. Sci., 95(9):5241-5245 (**Exhibit 239**);
283. Donzella, G.A., et al. (1998). AMD3100, A Small Molecule Inhibitor Of HIV-1 Entry Via The CXCR4 Co-Receptor. Nat. Med., 4:72-77 (**Exhibit 240**);
284. Doranz, B.J., et al. (1996). A Dual-Tropic Primary HIV-1 Isolate That Uses Fusin And Beta-Chemokine Receptors CKR-5, CKR-3 And CKR-2b As Fusion Cofactors. Cell, 85:1149-1158 (**Exhibit 241**);
285. Doranz, B.J., et al. (1997). Two Distinct CCR5 Domains Can

Applicants: Graham P. Allaway et al.
Serial No.: 09/904,356
Filed: July 12, 2001
Page 32

Mediate Co-Receptor Usage By Human Immunodeficiency Virus Type 1.
J. Virol., 71:6305-6314 (**Exhibit 242**);

286. Doranz, B.J., et al. (1997). A Small Molecule Inhibitor Directed Against The Chemokine Receptor CXCR4 Prevents Its Use As An HIV-1 Co-Receptor. J. Ex. Med., 186:1395-1400 (**Exhibit 243**);
287. Dragic, T.V., et al. (1995). Proteinase-Resistant Factors In Human Erythrocyte Membranes Mediated CD-4 Dependent Fusion With Cells Expressing Human Immunodeficiency Virus Type 1 Envelope Glycoproteins. J. Virol., 69:1013-1018 (**Exhibit 244**);
288. Dragic, T.V., et al. (1996). HIV-1 Entry Into CD4+ Cells Is Mediated By The Chemokine Receptor CC-CKR-5. Nature, 381:667-673 (**Exhibit 245**);
289. Dragic, T.V., et al. (1998). Amino-Terminal Substitutions In The CCR5 Coreceptor Impair Gp120 Binding And Human Immunodeficiency Virus Type 1 Entry. J. Virol., 72(1):279-285 (**Exhibit 246**);
290. Dragic, et al. (2000). A Binding Pocket For A Small Molecule Inhibitor Of HIV-1 Entry Within The Transmembrane Helices Of CCR5. Proc. Natl. Acad. Sci., 97(10):5639-5644 (**Exhibit 247**);
291. Eckert, D.M., et al. (1999). Inhibiting HIV-1 Entry: Discovery Of D-Peptide Inhibitors That Target The gp41 Coiled-Coil Pocket. Cell, 99:103-115 (**Exhibit 248**);
292. Eugen-Olsen, J., et al. (1997). Heterozygosity For A Deletion In The CKR-5 Gene Leads To Prolonged AIDS-Free Survival And Slower CD4 T-Cell Decline In A Cohort Of HIV-Seropositive Individuals. AIDS, 11:305-310 (**Exhibit 249**);
293. Fahey, J.L., et al. (1992). Status Of Immune-Based Therapies In HIV Infection And AIDS. Clin. Exp. Immunol., 88:1-5 (**Exhibit 250**);
294. Farzan, M., et al. (1998). A Tyrosine-Rich Region In The N-

Applicants: Graham P. Allaway et al.
Serial No.: 09/904,356
Filed: July 12, 2001
Page 33

- Terminus Of CCR5 Is Important For Human Immunodeficiency Virus Type 1 Entry And Mediates Association Between gp120 And CCR5. J. Virol., 72:1160-1164 (**Exhibit 251**);
295. Farzan, M., et al. (1999). Tyrosine Sulfation Of The Amino-Terminus Of CCR5 Facilitates HIV-1 Entry. Cell, 96:667-676 (**Exhibit 252**);
296. Farzan, M., et al. (2000). A tyrosine-sulfated peptide based on the N terminus of CCR5 interacts with a CD4-enhanced epitope of the HIV-1 gp 120 Envelope Glycoprotein And Inhibits HIV-1 Entry. J. Biol. Chem., 275:33416-33521 (**Exhibit 253**);
297. Feng, et al. (1996). Abstract No. 116,21 at Keystone Symposium (**Exhibit 254**);
298. Feng, Y., et al. (1996). HIV-1 Entry Cofactor: Functional cDNA Cloning Of A Seven-Transmembrane, g Protein-Coupled Receptor. Science, 272:872-877 (**Exhibit 255**);
299. Ferrer, M., et al. (1999). Selection Of gp-41 Mediated HIV-1 Cell Entry Inhibitors From Biased Combinatorial Libraries Of Non-Natural Binding Elements. Nature. Struct. Biol., 6:953-959 (**Exhibit 256**);
300. Flexner, C. and Hendrix, C. (1997). "Pharmacology Of Antiretroviral Agents", in AIDS: Biology, Diagnosis, Treatment And Prevention, 4th Edition, De Vita V., et al. eds., Lippincott-Raven Publishers. Pp. 479-493 (**Exhibit 257**);
301. Fouts, T.R., et al. (1997). Neutralization Of The Human Immunodeficiency Virus Type 1 Primary Isolate JR-FL By Human Monoclonal Antibodies Correlates With Antibody Binding To The Oligomeric Form Of The Envelope Glycoprotein Complex. J. Virol., 71:2779-2785 (**Exhibit 258**);
302. Fox, J.L. (1994). No Winners Against Aids. Bio/Technology, 12:128 (**Exhibit 259**);

Applicants: Graham P. Allaway et al.
Serial No.: 09/904,356
Filed: July 12, 2001
Page 34

303. Fradd, F. and Mary, M.E. (1989). AIDS Vaccines: An Investor's Guide, Shearman Lehman Hutton. P. 10:(Fig. 2) (**Exhibit 260**);
304. Furuta, R.A., et al. (1998). Capture Of An Early Fusion-Active Conformation Of HIV-1 gp41. Nature Struct. Biol., 5(4):276-279 (**Exhibit 261**);
305. Gait, M.J and Karn, J. (1995). Progress In anti-HIV Structure Based Drug Design. TIBTECH, 13:430-438 (**Exhibit 262**);
306. Gauduin, M.C., et al. (1996). Effective Ex Vivo Neutralization Of Plasma HIV-1 By Recombinant Immunoglobulin Molecules. J. Virol., 70:2586-2592 (**Exhibit 263**);
307. Gauduin, M.C., et al. (1997). Passive Immunization With A Human Monoclonal Antibody Protects hu-PBL-SCID Mice Against Challenge By Primary Isolates Of HIV-1. Nature Medicine, 3:1389-1393 (**Exhibit 264**);
308. Ghorpade A., et al. (1998). Role Of The Beta-Chemokine Receptors CCR3 And CCR5 In Human Immunodeficiency Virus Type 1 Infection Of Monocytes And Microglia. J. Virol, 72:3351-3361 (**Exhibit 265**);
309. Golding, H., et al. (1992). LFA-1 Adhesion Molecules Are Not Involved In The Arly Stages Of HIV-1 Env-Mediated Cell Membrane Fusion. AIDS Res. Hum. Retroviruses, 8:1593-1598 (**Exhibit 266**);
310. Gong, J.H., et al. (1995). Antagonists Of Monocyte Chemoattractant Protein 1 Identified By Modification Of Functionally Critical NH2-Terminal Residues. J. Exp. Med., 181:631-640 (**Exhibit 267**);
311. Gong, J.H., et al. (1996). RANTES And MCP-3 Antagonists Bind Multiple Chemokine Receptors. J. Biol. Chem., 371:10521-10527 (**Exhibit 268**);
312. Grene, et al. (2001). Anti-CCR5 Antibodies In Sera Of HIV-Positive Individuals. Human Immunol., 62(2):143-145 (**Exhibit 269**);

Applicants: Graham P. Allaway et al.
Serial No.: 09/904,356
Filed: July 12, 2001
Page 35

);

313. Harrington, R.D. and Geballe, A.P. (1993). Cofactor Requirement For Human Immunodeficiency Virus Type 1 Entry Into A CD4-Expressing Human Cell Line. J. Virol., 67:5939-5947 (**Exhibit 270**);
314. Hattori, T., et al. (1989). Involvement Of Trypsin-Related Cellular Protease(S) In Human Immunodeficiency Virus Type 1 Infection. FEBS Letters, 248:48-52 (**Exhibit 271**);
315. Haynes, B.F. (1996). Updates On The Issues Of HIV Vaccine Development. Ann. Med., 28:39-41 (**Exhibit 272**);
316. He, Jianglin, et al. (1997). CCR3 And CCR5 Are Co-Receptors For HIV-1 Infection Of Microglia. Nature, 385:645-649 (**Exhibit 273**);
317. Heath, et al. (1997). Chemokine Receptor Usage By Human Eosinophils. The Importance Of CCR3 Demonstrated Using An Antagonistic Monoclonal Antibody. J. Clin. Invest., 99:178-184 (**Exhibit 274**);
318. Heidenreich, et al. (1995). Application Of Antisense Technology To Therapeutics. Mol. Med. Today, 1:128-133 (**Exhibit 275**);
319. Hildreth, et al. (1989). Involvement Of A Leukocyte Adhesion Receptor (LFA-1) In HIV-Induced Syncytium Formation. Science, 244:1075-1078 (**Exhibit 276**);
320. Hill, C.M., et al. (1998). The Amino Terminus Of Human CCR5 Is Required For Its Function As A Receptor To Diverse Human And Simian Immunodeficiency Virus Envelope Glycoproteins. Virology, 248:357-371 (**Exhibit 277**);
321. Hirata, Y. (1989). Characterization Of IL-6 Receptor Expression By Monoclonal And Polyclonal Antibodies. J. Immun., 2900-2906 (**Exhibit 278**);

Applicants: Graham P. Allaway et al.
Serial No.: 09/904,356
Filed: July 12, 2001
Page 36

322. Howard, O.M.Z., et al. (1998). Small Molecule Inhibitor Of HIV-1 Cell Fusion Blocks Chemokine Receptor-Mediated Fusion. J. Leuk. Biol., 64:6-13 (**Exhibit 279**);
323. Hwang, S.S., et al. (1991). Identification Of The Envelope V3 Loop As The Primary Determinant Of Cell Tropism In HIV-1. Science, 253:71-74 (**Exhibit 280**);
324. Jacobson, J.M., et al. (1993). Passive Immunotherapy In The Treatment Of Advanced Human Immunodeficiency Virus Infection. J. Infect. Dis., 168:298-305 (**Exhibit 281**);
325. Jacobson, J., et al. (1999). Results Of A Phase I Trial Of Single-Dose PRO 542, A Novel Inhibitor Of HIV Entry. Abstracts Of The 39th Interscience Conference On Antimicrobial Agents And Chemotherapy 14 (**Exhibit 282**);
326. Ji, H., et al. (1999). Inhibition Of Human Immunodeficiency Virus Type 1 Infectivity By The gp41 Core: Role Of A Conserved Hydrophobic Cavity In Membrane Fusion. J. Virol., 73:8578-8586 (**Exhibit 283**);
327. Jiang, S., et al. (1993). HIV-1 Inhibition By A Peptide. Nature, 365:113 (**Exhibit 284**);
328. Jones, S.A., et al. (1997). Chemokine Antagonists That Discriminate Between Interleukin-8 Receptors. J. Biol. Chem., 272:16166-16199 (**Exhibit 285**);
329. Karwowska, S., et al. (1991). Passive Immunization For The Treatment And Prevention Of HIV Infection. Biotech. Therap., 2:31-48 (**Exhibit 286**);
330. Katinger, H. (1994). Human Monoclonal Antibodies For Passive Immunotherapy Of HIV-1. Antibiot. Chemother., 46:23-37 (**Exhibit 287**);
331. Kilby, J.M., et al. (1998). Potent Suppression Of HIV-1

Applicants: Graham P. Allaway et al.
Serial No.: 09/904,356
Filed: July 12, 2001
Page 37

Replication In Humans By T-20, A Peptide Inhibitor Of gp41-Mediated Virus Entry. Nature Med., 4:1302-1307 (**Exhibit 288**);

332. Klotman, et al. (1995). Transgenic Models Of HIV-1. AIDS, 9(4):313-324 (**Exhibit 289**);
333. Konigs, C., et al. (2000). Monoclonal Antibody Screening Of Phage-Displayed Random Peptide Library Reveals Mimotopes Of Chemokine Receptor CCR5: Implications For The Tertiary Structure Of The Receptor And For An N-Terminal Binding Site For HIV-1 gp120. Eur. J. Immunol., 30(4):1162-1171 (**Exhibit 290**);
334. Konishi, K., et al. (2000). Synthesis Of Peptides Mimicking Chemokine Receptor CCR5 And Their Inhibitory Effects Against HIV-1 Infection. Chem. Pharm. Bull., Tokyo, 48(2):308-309 (**Exhibit 291**);
335. Koup, R.A., et al. (1996). Defining Antibody Protection Against HIV-1 Transmission In Hu-PBL-SCID Mice. Immunology, 8:263-268 (**Exhibit 292**);
336. Kwong, P.D. et al. (1998). Structure Of An HIV gp120 Envelope Glycoprotein In Complex With The CD4 Receptor And Neutralizing Human Antibody. Nature, 393:648-659 (**Exhibit 293**);
337. Laal, S., et al. (1994). Synergistic Neutralization Of Human Immunodeficiency Virus Type 1 By Combinations Of Human Monoclonal Antibodies. J. Virol., 68:4001-4008 (**Exhibit 294**);
338. LaCasse, R.A., et al. (1999). Fusion-Competent Vaccines: Broad Neutralization Of Primary Isolates Of HIV. Science, 283:357-362 (**Exhibit 295**);
339. Lee, B., et al. (1999). Epitope Mapping Of CCR5 Reveals Multiple Conformational States And Distinct But Overlapping Structures Involved In Chemokine Coreceptor Function. J. Biol. Chem., 9617-9626 (**Exhibit 296**);

Applicants: Graham P. Allaway et al.
Serial No.: 09/904,356
Filed: July 12, 2001
Page 38

340. Lehner, et al. (2001). Immunogenicity Of The Extracellular Domains Of C-C Chemokine Receptor 5 And The In Vitro Effects On Simian Immunodeficiency Or HIV Infectivity. Journal Of Immunology, 166(12):7446-7455 (**Exhibit 297**);
341. Levy, J.A. (1996). Controlling HIV Pathogenesis: The Role Of The Non-Cytotoxic Anti-HIV Response Of CD8+ Cells. Immunology Today, 17:217-224 (**Exhibit 298**);
342. Li, A., et al. (1997). Synergistic Neutralization Of Chimeric SIV/HIV Type 1 Virus With Combinations Of Human Anti-HIV Type 1 Envelope Monoclonal Antibodies Or Hyperimmune Globulins. AIDS Res. Hum. Retroviruses, 12:647-56 (**Exhibit 299**);
343. Li, A.H., et al. (1998). Synergistic Neutralization Of Simian-Human Immunodeficiency Virus SHIV-vpu+ By Triple And Quadruple Combination Of Human Monoclonal Antibodies And High-Titer Antihuman Immunodeficiency Virus Type 1 Immunoglobulins. J. Virol., 72:3235-3240 (**Exhibit 300**);
344. Litwin, V.M., et al. (1996). Human Immunodeficiency Virus Type 1 Membrane Fusion Mediated By A Laboratory-Adapted Strain And A Primary Isolate Analyzed By Resonance Energy Transfer. J. Virol., 70(9):6437-6441 (**Exhibit 301**);
345. Loetscher, M., et al. (1994). Cloning Of A Human Seven-Transmembrane Domain Receptor, LESTR, That Is Highly Expressed In Leukocytes. J. Biol. Chem., 269:232-237 (**Exhibit 302**);
346. Mack, M., et al. (1998). Aminooxypentane-RANTES Induces CCR5 Internalization But Inhibits Recycling: A Novel Inhibitory Mechanisms Of HIV Infectivity. J. Ex. Med., 187:1215-1224 (**Exhibit 303**);
347. Mackay, C.R. (1996). Chemokine Receptors And T Cell Chemotaxis. J. Exp. Med., 84:799-802 (**Exhibit 304**);
348. Maddon, P.J., et al. (1986). The T4 Gene Encodes The AIDS Virus

Applicants: Graham P. Allaway et al.
Serial No.: 09/904,356
Filed: July 12, 2001
Page 39

Receptor And Is Expressed In The Immune System And The Brain.
Cell, 47:333-348 (**Exhibit 305**);

349. Markosyan, R.M., et al. (2002). The Mechanism Of Inhibition Of HIV-1 Entry Env-Mediated Cell-Cell Fusion By Recombinant Cores Of gp41 Ectodomain. Virology, 302:174-184 (**Exhibit 306**);
350. McKnight, A.D., et al. (1997). Inhibition Of Human Immunodeficiency Virus Fusion By A Monoclonal Antibody To A Coreceptor (CXCR4) Is Both Cell Type And Virus Strain Dependent. J. Virol., 71:1692-1696 (**Exhibit 307**);
351. Mellors, J.W. (1996). Closing In On Human Immunodeficiency Virus-1. Nature Medicine, 2(3):274-275 (**Exhibit 308**);
352. Mohan, P., et al. (1992). Sulfonic Acid Polymers As A New Class Of Human Immunodeficiency Virus Inhibitors. Antiviral Res., 18:139-150 (**Exhibit 309**);
353. Moser, B., et al. (1993). Interleukin-8 Antagonists Generated By N-Terminal Modification. J. Biol. Chem., 268:7125-7128 (**Exhibit 310**);
354. Mosier, D.E. (1990). Immunodeficient Mice Xenografted With Human Lymphoid Cells: New Models For In-Vivo Studies Of Human Immunobiology And Infectious Diseases. J. Clin. Immuno., 10(4):185-191 (**Exhibit 311**);
355. Nagasawa, et al. (1994). Molecular Cloning And Structure Of A Pre-B-Cell Growth-Stimulating Factor. Proc. Natl. Acad. Sci., 91:2305-2309 (**Exhibit 312**);
356. Nagashima, K.A., et al. (2001). Human Immunodeficiency Virus Type 1 Entry Inhibitors PRO 542 And T-20 Are Potently Synergistic In Blocking Virus-Cell And Cell-Cell Fusion. J. Infect. Dis., 183:1121-1125 (**Exhibit 313**);
357. Nakano, T., et al. (1995). Vascular smooth muscle cell-derived,

Applicants: Graham P. Allaway et al.
Serial No.: 09/904,356
Filed: July 12, 2001
Page 40

- Gla-containing growth-potentiating factor for Ca²⁺ mobilizing growth factors. J. Biol. Chem., 270(11):5702-5705 (**Exhibit 314**);
358. Neote, et al. (1993). Molecular cloning, functional expression, and signaling characteristics of a C-C chemokine receptor. Cell, 72:415-425 (**Exhibit 315**);
359. Oberg, B and Vrang, L. (1990). Screening for new agents. Eur. J. Clin. Microbiol. Infect. Dis., 9(7):466-471 (**Exhibit 316**);
360. Oberlin, E., et al. (1996). The CXC Chemokine SDF-1 is the Ligand for LESTR/fusion and prevents infection by T-cell-line-adapted HIV-1. Nature, 382: 833-835 (**Exhibit 317**);
361. Oellerich, M., (1984). Enzyme-Immunoassay: A Review. J. Clin. Chem. Clin. Biochem., 22(12):895-904 (**Exhibit 318**);
362. Olson, et al., (1999). Differential Inhibition of Human Immunodeficiency Virus Type 1 Fusion, gp120 Binding and CC-chemokine Activity of Monoclonal Antibodies to CCR5. J. Virol., 73:4145-4155 (**Exhibit 319**);
363. Opperman, (2004). Chemokine Receptor CCR5: Insights Into Structure, Function, And Regulation. Cell. Signal., 16:1201-1210 (**Exhibit 320**);
364. Parren, et al. (2001). Antibody Protects Macaques Against Vaginal Challenge With A Pathogenic R5 Simian/Human Immunodeficiency Virus At Serum Levels Giving Complete Neutralization In Vitro. J. Virol., 75:8340-8347 (**Exhibit 321**);
365. Partidos, C., et al. (1992). The Effect Of Orientation Of Epitopes On The Immunogenicity Of Chimeric Synthetic Peptides Representing Measles Virus Protein Sequences. Molecular Immunology, 29(5):651-658 (**Exhibit 322**);
366. Poignard, P., et al. (1999). Neutralizing Antibodies Have

Applicants: Graham P. Allaway et al.
Serial No.: 09/904,356
Filed: July 12, 2001
Page 41

Limited Effects On The Control Of Established HIV-1 Infection In-Vivo. Immunity, 10:431-438 (**Exhibit 323**);

367. Posner, M.R., et al. (1993). Neutralization Of HIV-1 By F105, A Human Monoclonal Antibody To The CD4 Binding Site Of gp120. J. Acq. Immune Defic. Synd., 6:7-14 (**Exhibit 324**);
368. Power, et al. (1995). Molecular Cloning And Functional Expression Of A Novel CC Chemokine Receptor Cdna From A Human Basophilic Cell Line. J. Biol. Chem., 270:1811-1815 (**Exhibit 325**);
369. Proudfoot, et al. (1996). Extension Of Recombinant Human RANTES By The Retention Of The Initiating Methionine Produces A Potent Antagonist. J. Biol. Chem., 271:2599-2603 (**Exhibit 326**);
370. Proudfoot, et al. (1999). Chemokine Receptors: Future Therapeutic Targets For HIV. Biochem. Pharmacol., 57:451-463 (**Exhibit 327**);
371. Proudfoot, et al. (2000). The Strategy Of Blocking The Chemokine System To Combat Disease. Immunol. Rev., 177:246-256 (**Exhibit 328**);
372. Queen, et al. (1989). A Humanized Antibody That Binds To The Interleukin 2 Receptor. Proc. Natl. Acad. Sci, 86:10029-10033 (**Exhibit 329**);
373. Rabut, G.E., et al. (1991). Alanine Substitutions Of Polar And Nonpolar Residues In The Amino-Terminal Domain Of CCR5 Differently Impair Entry Of Macrophage And Dualtropic Isolates Of Human Immunodeficiency Virus Type 1. J. Virol., 72:3464-3468 (**Exhibit 330**);
374. Raport, C.J., et al. (1996). Molecular Cloning And Functional Characterization Of A Novel Human CC-Chemokine Receptor (CCR5) For RANTES, MIP-1 β , and MIP-1 α . J. Biol. Chem., 271:1761-1766 (**Exhibit 331**);

Applicants: Graham P. Allaway et al.
Serial No.: 09/904,356
Filed: July 12, 2001
Page 42

375. Raport, C.J., et al. (1996). New Members Of The Chemokine Receptor Gene Family. Journal of Leukocyte Biology, 59:18-23 (**Exhibit 332**);
376. Raport, C.J., et al. (1996). AAC50598 submitted to NCBI on April 12, 1996 (CC Chemokine Receptor 5 sequence) (**Exhibit 333**);
377. Richman, D.D. (1996). Antiretroviral Drug-Resistance: Mechanisms, Pathogenesis, Clinical Significance. Antivir. Chemother., 4:383-395 (**Exhibit 334**);
378. Rodriguez, G., et al. (1995). Mediation Of Human Immunodeficiency Virus Type 1 Binding By Interaction Of Cell Surface Heparin Sulfate Proteoglycans With V3 Region Of Envelope gp120-gp41. J. Virol., 69:2233-2239 (**Exhibit 335**);
379. Rucker, et al. (1996). Regions In Beta-Chemokine Receptors CCR5 And CCR2b That Determine HIV-1 Cofactor Specificity. Cell, 87:437-446 (**Exhibit 336**);
380. Ruffing, et al. (1998). CCR5 Has An Expanded Ligand-Binding Repertoire And Is The Primary Receptor Used By MCP-2 On Activated T-Cells. Cell. Immunol., 160:160-168 (**Exhibit 337**);
381. Rudikoff, et al. (1982). Single Amino Acid Substitution Altering Antigen-Binding Specificity. Proc. Natl. Acad. Sci., 79:1979-1983 (**Exhibit 338**);
382. Samson, M., et al. (1996). Molecular Cloning And Functional Expression Of A New Human CC-Chemokine Receptor Gene. Biochem., 35:3362-3367 (**Exhibit 339**);
383. Sandberg, J. (1995). Developmental Pharmacology And Toxicology Of Anti-HIV Therapeutic Agents: Dideoxynucleosides. FASEB J., 9:1157-1163 (**Exhibit 340**);
384. Sato, et al. (1992). Anti-Cd7 Reagents Inhibit HIV-1 Induced Syncytium Formation. International Conference on AIDS, 81. PA5

Applicants: Graham P. Allaway et al.
Serial No.: 09/904,356
Filed: July 12, 2001
Page 43

PoA 2017 (**Exhibit 341**);

385. Sato, et al. (1994). Identification Of CD7 Glycoprotein As An Accessory Molecule In HIV-1 Mediated Syncytium Formation And Cell Free Infection. J. Immunol., 152:5142-5152 (**Exhibit 342**);
386. Sato, et al. (1995). A Simple And Rapid Method For Preliminary Evaluation Of In Vivo Efficacy Of Anti-HIV Compounds In Mice. Antivir. Res., 27:151-163 (**Exhibit 343**);
387. Scarlatti, et al. (1997). In Vivo Evolution Of HIV-1 Co-Receptor Usage And Sensitivity To Chemokine-Mediated Suppression. Nature Medicine, 3(11):1259-1265 (**Exhibit 344**);
388. Schanberg, et al. (1995). Characterization Of Human CD7 Transgenic Mice. J. of Immunol., 155:2407-2418 (**Exhibit 345**);
389. Schols, D., et al. (1990). Dextran sulfate and other olyanionic anti-HIV compounds specifically interact with the viral gp120 Glycoprotein Expressed By T-Cells Persistently Infected With HIV-1. Virology, 175:556-561 (**Exhibit 346**);
390. Schols, D., et al. (1991). Selective Inhibitory Activity Of Polyhydroxycarboxylates Derived From Phenolic Compounds Against Human Immunodeficiency Virus Replication. J. Acq. Immune Defic. Synd., 4:677-685 (**Exhibit 347**);
391. Schols, D., et al. (1999). CD26-Processed RANTES(3-68), But Not Intact RANTES, Has Potent Anti-HIV-1 Activity. Antiviral Res., 30:175-187 (**Exhibit 348**);
392. Simmons, G., et al. (1997). Potent Inhibition Of HIV-1 Infectivity In Macropages And Lymphocytes By A Novel CCR5 Antagonist. Science, 276:276-279 (**Exhibit 349**);
393. Sommerfelt, M.A., et al. (1995). Intercellular Adhesion Molecule 3, A Candidate Human Immunodeficiency Virus Type 1 Co-Receptor On Lymphoid And Monocytoid Cells. J. Gen. Virol., 76:1345-1352

Applicants: Graham P. Allaway et al.
Serial No.: 09/904,356
Filed: July 12, 2001
Page 44

(**Exhibit 350**);

394. Steinberger, P., et al. (2000). Generation And Characterization Of A Recombinant Human CCR5-Specific Antibody. J. Biol. Chem., 275:36073-36078 (**Exhibit 351**);
395. Stewart, G.J. (1997). Increased Frequency Of CCR-5 Δ 32 Heterozygotes Among Long-Term Non-Progressors With HIV-1 Infection. AIDS, 11:1833-1838 (**Exhibit 352**);
396. Strizki, J.M., et al. (1997). A Monoclonal Antibody (12G5) Directed Against CXCR4 Inhibits Infection With The Dual-Tropic Human Immunodeficiency Virus Type 1 Isolates HIV-1 89.6 But Not The T-Tropic Isolate HIV-1 HxB. J. Virol., 71:5678-5683 (**Exhibit 353**);
397. Su, et al. (1996). Preparation Of Specific Polyclonal Antibodies To A C-C Chemokine Receptor, CCR1, And Determination Of CCR1 Expression On Various Types Of Leukocytes. J. Leukos. Biol., 60:658-666 (**Exhibit 354**);
398. Thali, M., et al. (1992). Cooperativity Of Neutralizing Antibodies Directed Against The VS And CD4 Binding Regions Of The Human Immunodeficiency Virus gp120 Envelope Glycoprotein. J. Acq. Immune. Defic. Synd., 5:591-599 (**Exhibit 355**);
399. Tilley, S.A., et al. (1991). Potent Neutralization Of HIV-1 By Human And Chimpanzee Monoclonal Antibodies Directed Against Three Distinct Epitope Clusters Of gp120. Sixieme Colloque Des Cent Gardes., 211-216 (**Exhibit 356**);
400. Tremblay, et al. (2000). Strong In Vitro Synergy Observed Between The Fusion Inhibitor T-20 And A CXCR4 Blocker AMD-3100. February 7th, 2000 Conference on Retroviruses and Opportunistic Infections, abstract 500 (**Exhibit 357**);
401. Tremblay, et al. (1999). Strong In Vitro Synergy Between The Fusion Inhibitor T-20 And The CXCR4 Blocker AMD-3100. Journal of

Applicants: Graham P. Allaway et al.
Serial No.: 09/904,356
Filed: July 12, 2001
Page 45

Acquired Immune Deficiency Syndromes, 25(2):99-102 (**Exhibit 358**);

402. Trkola, A., et al. (2001). Potent, Broad-Spectrum Inhibition Of Human Immunodeficiency Virus Type 1 By The CCR5 Monoclonal Antibody PRO 140. J. Virol., 75:579-588 (**Exhibit 359**);
403. Trkola, A., et al. (1999). Cross-Clade Neutralization Of Primary Isolates Of Human Immunodeficiency Virus Type 1 By Human Monoclonal Antibodies And Tetrameric CD4-IgG. J. Virol., 73(5):4145-4155 (**Exhibit 360**);
404. Trkola, A., et al. (1996). CD-4 Dependent, Antibody Sensitive Interactions Between HIV-1 And Its Co-Receptor CCR-5. Nature, 384:184-187 (**Exhibit 361**);
405. Trkola, A., et al. (1998). Neutralization Sensitivity Of Human Immunodeficiency Virus Type 1 Primary Isolates To Antibodies And CD40 based Reagents Is Independent Of Coreceptor Usage. J. Virol., 72:1876-1885 (**Exhibit 362**);
406. Tulip, W.R., et al. (1992). Crystal Structures Of Two Mutant NERAMINIDASE-Antibody Complexes With Amino Acid Substitutions In The Interface. J. Mol. Biol., 227:149-159 (**Exhibit 363**);
407. Valentin, et al. (1990). The Leukocyte Adhesion Glycoprotein CD18 Participates In HIV Induced Syncytia Formation In Monocytoid And T Cells. J. of Immunology, 144:934-937 (**Exhibit 364**);
408. Valenzuela, A., et al. (1997). Neutralizing Antibodies Against The V3 Loop Of Human Immunodeficiency Virus Type 1 Block The CD4-Dependent And Independent Binding Of Virus To Cells. J. Virol., 71(11):8289-8298 (**Exhibit 365**);
409. Vihj-Warrier, S., Pinter, A., Honnen, W.J., and Tilley, S.A. (1996). Synergistic Neutralization Of Human Immunodeficiency Virus Type 1 By A Chimpanzee Monoclonal Antibody Against The V2 Domain Of gp120 In Combination With Monoclonal Antibodies Against The V3 Loop And The CD4-Binding Site. J. Virol., 70:4466-4473

Applicants: Graham P. Allaway et al.
Serial No.: 09/904,356
Filed: July 12, 2001
Page 46

(**Exhibit 366**);

410. Vila-Coro, et al. (2000). HIV-1 Infection Through The CCR5 Receptor Is Blocked By Receptor Dimerization. Proc. Natl. Acad. Sci., 97(7):3388-3393 (**Exhibit 367**);
411. Vita, C., et al. (1999). Rational Engineering Of A Mini-Protein That Reproduces The Core Of The CD4 Site Interacting With HIV-1 Envelope Glycoprotein. Proc. Natl. Acad. Sci., 96:13091-13096 (**Exhibit 368**);
412. Wang, et al. (1994). Deletion Of T Lymphocytes In Human CD4 Transgenic Mice Induced By HIV-gp120 and gp120-Specific Antibodies From AIDS Patients. Eur. J. Immunol., 24:1553-1557 (**Exhibit 369**);
413. Wells, T.N.C., et al. (1996). Selectivity And Antagonism Of Chemokine Receptors. Journal of Leukocyte Biology, 59:53-60 (**Exhibit 370**);
414. Wild, C., et al. (1992). A Synthetic Peptide Inhibitor Of Human Immunodeficiency Virus Replication: Correlation Between Solution Structure And Viral Inhibition. Proc. Natl. Acad. Sci., 89:10537-10541 (**Exhibit 371**);
415. Wild, C., et al. (1993). A synthetic peptide from HIV-1 Gp41 Is A Potent Inhibitor Of Virus Mediated Cell-Cell Fusion. AIDS Res. Humn. Retroviruses, 9:1051-1053 (**Exhibit 372**);
416. Wild, C., et al. (1994). Peptides Corresponding To A Predictive Alpha-Helical Domain Of Human Immunodeficiency Virus Type 1 gp41 Are Potent Inhibitors Of Virus Infection. Proc. Natl. Acad. Sci., 91:9770-9774 (**Exhibit 373**);
417. Wild, C., et al. (1995). The Inhibitory Activity Of An HIV Type 1 Peptide Correlates With Its Ability To Interact With A Leucine Zipper Structure. AIDS Res. Hum. Retroviruses, 11:323-325 (**Exhibit 374**);

Applicants: Graham P. Allaway et al.
Serial No.: 09/904,356
Filed: July 12, 2001
Page 47

418. Wu, et al. (1997). CCR5 Levels And Expression Pattern Correlate With Infectability By Macrophagetropic HIV-1 In Vitro. J. Exp. Med., 185(9):1681-1691 (**Exhibit 375**);
419. Wu, et al. (1997). Interaction Of Chemokine Receptor CCR5 With Its Ligands: Multiple Domains For HIV-1 gp120 Binding And A Single Domain For Chemokine Binding. J. Exper. Med., 186(8):1373-1381 (**Exhibit 376**);
420. Wu, L., et al. (1996). CD4-Induced Interaction Of Primary HIV-1 gp120 Glycoproteins With The Chemokine Receptor CCR-5. Nature, 384:179-183 (**Exhibit 377**);
421. Yamagami, et al. (1994). cDNA Cloning And Functional Expression Of Human Monocyte Chemoattractant Protein 1 Receptor. Biochem. Biophys. Res. Commun., 212:1156-1162 (**Exhibit 378**);
422. Yarchoan, R. and Broder, S. (1992). Correlations Between The In Vitro And The In Vivo Activity Of Anti-HIV Agents: Implications For Future Drug Development. J. Enzyme Inhibit., 6:99-11 (**Exhibit 379**);
423. Ylisastigui, L., et al. (1998). Synthetic Full Length And Truncated RANTES Inhibit HIV-1 Infection Or Primary Macrophages. AIDS, 12:977-984 (**Exhibit 380**);
424. Zhang, Y.J., et al. (1994). Structure / Activity Analysis Of Human Monocyte Chemoattractant Protein-1 (MCP-1) By Mutagenesis. J. Biol. Chem., 269:15918-15924 (**Exhibit 381**);
425. W.C. Olson et al., U.S. Patent Application Serial No. 10/081,128 filed February 22, 2002 (**Exhibit 382**);
426. W.C. Olson et al., U.S. Patent Application Serial No. 09/212,793 filed December 16, 1998 (**Exhibit 383**);
427. G.P. Allaway et al., U.S. Patent Application Serial No. 08/663,616 filed June 14, 1996 (**Exhibit 384**);

Applicants: Graham P. Allaway et al.
Serial No.: 09/904,356
Filed: July 12, 2001
Page 48

428. G.P. Allaway et al., U.S. Patent Application Serial No. 08/673,682 filed June 25, 1996 (**Exhibit 385**);
429. G.P. Allaway et al., U.S. Patent Application Serial No. 08/874,570 filed June 13, 1997 (**Exhibit 386**);
430. G.P. Allaway et al., U.S. Patent Application Serial No. 08/874,618 filed June 13, 1997 (**Exhibit 387**);
431. V.M. Litwin et al., U.S. Patent Application Serial No. 09/118,415 filed July 17, 1998 (**Exhibit 388**);
432. W.C. Olson et al., U.S. Provisional Application No. 60/358,886 filed February 22, 2002 (**Exhibit 389**);
433. D. Littman et al., U.S. Provisional Application No. 60/017,157, filed May 20, 1996 (**Exhibit 390**);
434. W.C. Olson et al., U.S. Provisional Application No. 60/266,738 filed February 6, 2001 (**Exhibit 391**);
435. W.C. Olson et al., U.S. Provisional Application No. 60/282,380 filed April 6, 2001 (**Exhibit 392**);
436. W.C. Olson et al., U.S. Provisional Application No. 60/019,715 filed June 14, 1996 (**Exhibit 393**);
437. G.P. Allaway et al., U.S. Provisional Application No. 60/019,941 filed June 14, 1996 (**Exhibit 394**);
438. W.C. Olson et al., U.S. Provisional Application No. 60/112,532 filed December, 16 1998 (**Exhibit 395**);
439. T. Dragic et al., U.S. Provisional Application No. 60/185,667 filed February 29, 2000 (**Exhibit 396**);
440. T. Dragic et al., U.S. Provisional Application No. 60/205,839 filed May 19, 2000 (**Exhibit 397**);

Applicants: Graham P. Allaway et al.
Serial No.: 09/904,356
Filed: July 12, 2001
Page 49

441. T. Dragic et al., U.S. Provisional Application No. 60/267,231 filed February 7, 2001 (**Exhibit 398**);
442. T. Dragic, U.S. Provisional Application No. 60/272,203 filed February 28, 2001 (**Exhibit 399**);
443. C. Combadiere et al., U.S. Provisional Application No. 60/018,508 filed May 28, 1996 (**Exhibit 400**);
444. PCT International Application Publication No. WO 97/37005, published October 27, 1997 (**Exhibit 401**);
445. PCT International Application Publication No. WO 97/28258, published August 7, 1997 (**Exhibit 402**);
446. PCT International Application Publication No. WO 97/44462, published November 27, 1997 (**Exhibit 403**);
447. PCT International Application Publication No. WO 01/64710, published September 7, 2001 (**Exhibit 404**);
448. PCT International Application Publication No. WO 02/068608, published September 06, 2002 (**Exhibit 405**);
449. PCT International Application Publication No. WO 02/083172, published October 24, 2002 (**Exhibit 406**);
450. PCT International Application Publication No. WO 02/22077, published March 21, 2002 (**Exhibit 407**);
451. PCT International Application Publication No. WO 03/072766, published September 4, 2003 (**Exhibit 408**);
452. PCT International Application Publication No. WO 07/014114, published February 1, 2007 (**Exhibit 409**);
453. PCT International Application Publication No. WO 97/47318 A, published December 18, 1997 (**Exhibit 410**);

Applicants: Graham P. Allaway et al.
Serial No.: 09/904,356
Filed: July 12, 2001
Page 50

454. PCT International Application Publication No. WO 98/18826,
published May 7, 1998 (**Exhibit 411**);
455. PCT International Application Publication No. WO 02/064612,
published August 22, 2002 (**Exhibit 412**);
456. PCT International Application Publication No. WO 01/55439,
published August 2, 2001 (**Exhibit 413**);
457. PCT International Application Publication No. WO 01/58915,
published August 16, 2001 (**Exhibit 414**);
458. PCT International Application Publication No. WO 01/58916
published August 16, 2001 (**Exhibit 415**);
459. PCT International Application Publication No. WO 97/22698,
published June 26, 1997 (**Exhibit 416**);
460. PCT International Application Publication No. WO 97/44055,
published November 27, 1997 (**Exhibit 417**);
461. PCT International Application Publication No. WO 97/032019,
published September 4, 1997 (**Exhibit 418**);
462. PCT International Search Report issued June 9, 1997 for
International Application Publication No. WO 97/26009 (**Exhibit
419**);
463. PCT International Search Report issued July 5, 1997 for
International Application Publication No. WO 98/56421 (**Exhibit
420**);
464. PCT International Search Report issued September 3, 1997 for
International Application Publication No. WO 97/47319 (**Exhibit
421**);
465. PCT International Search Report issued September 12, 1998 for
International Application Publication No. WO 98/56421 (**Exhibit**

Applicants: Graham P. Allaway et al.
Serial No.: 09/904,356
Filed: July 12, 2001
Page 51

422);

- 466. PCT International Search Report issued September 3, 1997 for International Application Publication No. WO 97/47318 (**Exhibit 423);**
- 467. PCT International Search Report issued June 7, 2000 for International Application Publication No. WO 00/35409 (**Exhibit 424);**
- 468. PCT International Search Report issued August 13, 2003 for International Application Publication No. WO 03/072766 (**Exhibit 425);**
- 469. PCT International Search Report issued April 23, 2002 for International Application Publication No. WO 02/22077 (**Exhibit 426);**
- 470. PCT International Search Report issued July 31, 2003 for International Application Publication No. WO 02/083172 (**Exhibit 427);**
- 471. PCT International Preliminary Examination Report issued January 27, 2000 for International Application Publication No. WO 98/56421 (**Exhibit 428);**
- 472. PCT International Preliminary Examination Report issued July 10, 1998 for International Application Publication No. WO 97/37005 (**Exhibit 429);**
- 473. PCT International Preliminary Examination Report issued October 16, 1999 for International Application Publication No. WO 97/47319 (**Exhibit 430);**
- 474. PCT International Preliminary Examination Report issued September 28, 2005 for International Application Publication No. WO 03/072766 (**Exhibit 431);**

Applicants: Graham P. Allaway et al.
Serial No.: 09/904,356
Filed: July 12, 2001
Page 52

475. PCT International Preliminary Examination Report issued April 5, 2006 for International Application Publication No. WO 03/072766 (**Exhibit 432**);
476. PCT International Preliminary Examination Report issued February 15, 2001 for International Application Publication No. WO 00/35409 (**Exhibit 433**);
477. PCT International Preliminary Examination Report issued December 24, 2003 for International Application Publication No. WO 02/083172 (**Exhibit 434**);
478. PCT Written Opinion issued May 25, 2005 in connection with International Application Publication No. WO 03/072766 (**Exhibit 435**);
479. European Supplementary Partial Search Report issued September 27, 2004 for European Application No. 99966466 (**Exhibit 436**);
480. European Supplementary Partial Search Report issued February 19, 2003 for European Patent Application No. 98931261.6 (**Exhibit 437**);
481. European Supplementary Partial Search Report issued August 26, 2004 for European Patent Application No. 97930120.7 (**Exhibit 438**);
482. European Supplementary Partial Search Report issued November 8, 2004 for European Patent Application No. 97930120.7 (**Exhibit 439**);
483. European Supplementary Search Report issued April 21, 2006 for European Application No. 03713632.2 (**Exhibit 440**);
484. European Supplementary Search Report issued March 6, 2002 for European Patent Application No. 97917856.3 (**Exhibit 441**);
485. European Supplementary Search Report issued April 27, 2006 for

Applicants: Graham P. Allaway et al.
Serial No.: 09/904,356
Filed: July 12, 2001
Page 53

European Patent Application No. 01970984.9 (**Exhibit 442**);

- 486. European Patent Office Communication issued November 11, 2004 in connection with European Patent Application No. 97930120.7 (**Exhibit 443**);
- 487. European Patent Application No. 96870021.1 filed March 1, 1996 (**Exhibit 444**);
- 488. European Patent Application No. 0883687 B1 issued October 27, 2004 (**Exhibit 445**);
- 489. European Patent Application No. 96870102.9 filed August 6, 1996 (**Exhibit 446**);
- 490. European Patent Application Publication No. 1145721 A2 published October 17, 2001 (**Exhibit 447**);
- 491. European Patent Application Publication No. 1146055 A2 published October 17, 2001 (**Exhibit 448**);
- 492. European Patent Application Publication No. 1146122 A2 published October 17, 2001 (**Exhibit 449**);
- 493. European Patent Application Publication No. 1148126 A2 published October 24, 2001 (**Exhibit 450**);
- 494. European Patent Application Publication No. 1148127 A2 published October 24, 2001 (**Exhibit 451**);
- 495. European Patent Application Publication No. 1149582 A2 published October 31, 2001 (**Exhibit 452**);
- 496. European Patent Application Publication No. 1199360 A2 published April 24, 2002 (**Exhibit 453**);
- 497. European Patent Application Publication No. 1482042 A1 published December 1, 2004 (**Exhibit 454**);


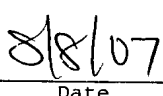
Applicants: Graham P. Allaway et al.
Serial No.: 09/904,356
Filed: July 12, 2001
Page 54

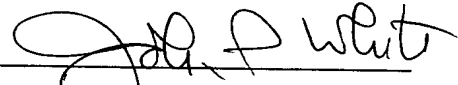
498. European Patent Application Publication No. 0815137 published December 12, 1996 (**Exhibit 455**); and
499. Canadian Patent Application Publication No. 2216990 published December 27, 1997 (**Exhibit 456**).

If a telephone interview would be of assistance in advancing prosecution of the subject application, applicants' undersigned attorney invites the Examiner to telephone him at the number provided below.

No fee, other than the \$510.00 fee for a three-month extension of time and the \$180.00 fee for filing a Supplemental Information Disclosure Statement, is deemed necessary in connection with the filing of this Communication. However, if any additional fee is required, authorization is hereby given to charge the amount of any such fee to Deposit Account No. 03-3125.

Respectfully submitted,

I hereby certify that this correspondence is being deposited this date with the U.S. Postal Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop Amendment Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450.	
 John P. White Reg. No. 28,678	 Date


John P. White
Registration No. 28,678
Attorney for Applicants
Cooper & Dunham, LLP
1185 Avenue of the Americas
New York, New York 10036
(212) 278-0400